

## DAVIDSON'S BOAT APPARATUS.

[To accompany Bill H. R. No. 855.]

JUNE 22, 1860.

Mr. J. MORRISON HARRIS, from the Committee on Naval Affairs, made the following

### REPORT.

*The Committee on Naval Affairs, to whom was referred the petition of Hunter Davidson and Alexander H. Evans, have had the same under consideration and beg leave to submit the following report:*

This is an application on the part of the petitioners for the passage of a law authorizing the Secretary of the Navy to purchase the right to use the apparatus of the petitioners in the navy of the United States.

The apparatus is the invention of Hunter Davidson, of the United States navy, one of the petitioners, and consists of a very simple and efficacious arrangement for lowering, detaching, and attaching a ship's boats. By it, a single person, who is stationed on the deck of the ship, controls with a single rope, with perfect ease, the lowering of the boat into the water, and without any danger of swamping. A single person also, in the boat, can detach it in an instant, at the most desirable point of time, even before it touches the water, if that be necessary, so that however dark the night or high the sea, the boat, with its crew, may be dropped into the water with as much safety and convenience as if the ship were lying becalmed, while the simplicity of the arrangement is admirably calculated to secure this important operation from the bad consequences too often inseparable from the excitement which is the result of the very circumstances which make the invention so desirable.

The committee, aware of the very frequent occasions when at sea it is important that boats should be got into the water at an instant's notice, and when the swell of the ocean is such as to render the lowering of boats a task of great difficulty and danger, and also cognizant of the terrible loss of life too often consequent, both upon the time necessarily consumed in lowering boats under the existing system, and from their liability to be swamped for want of the means of dropping them into the water at the right moment, and then instantly and certainly detaching them, were prepared to regard the model and accompanying papers submitted to them in this case with interest and favor.

In order to judge more intelligently, however, of the value of the invention, by witnessing its practical working, several members of the committee went to Annapolis, and, on board the practice ship Plymouth, lying there, had an opportunity of seeing the simple and efficient operation of the apparatus, by which the boat to which it was attached, together with the men in it, were dropped a distance of several feet into the water, with a safety, rapidity, and ease which could not fail to impress them very favorably with the value of the invention. This, however, was under very favorable circumstances, with a vessel lying at anchor in still water, and under no circumstances of danger or excitement. The necessity, therefore, of a test under other circumstances was desirable before the expression of any positive opinion as to its value would be proper, and the committee have therefore delayed reporting in the case until they could be informed of the results of experiments with the apparatus, conducted at sea, under the direction of the Navy Department, in a government vessel. These results have been furnished in the communication of Commander S. F. Hazard, United States steamer Pocahontas, which is subjoined, and which bears strong testimony to the value and practical completeness of the invention.

## A.

U. S. STEAMER POCAHONTAS,  
*Key West, April 7, 1860.*

SIR : I have the honor to inform you that, in obedience to your orders of the 6th and 12th of March last, I have several times while at Norfolk, and during our passage from Norfolk to this place, tested Davidson's boat apparatus for the purpose of quickly and safely lowering and hoisting boats at sea, and I have no hesitation in saying that my experiments justify me in pronouncing it to be one of the best things of the kind I have ever seen, and recommend it for all boats in the naval service.

The quickest time I lowered the boat on board of the Pocahontas, without any one apprehending my intention, was as follows :

	<i>h.</i>	<i>'</i>	<i>"</i>	
Called away the boat's crew at.....	1	57	00	p. m.
Commenced getting ready for lowering.....	1	57	20	p. m.
Ready for lowering.....	1	57	25	p. m.
Commenced lowering.....	1	57	28	p. m.
Boat in water (falling two feet) and detached from her tackling.....	1	57	31	p. m.

At the time we were steaming nearly seven knots per hour, sea rather rough, and weather very pleasant; there were five persons in the boat, averaging, probably, one hundred and fifty pounds each, which, with the weight of the boat, oars, rudder and chain fixings, might be sixteen hundred pounds; when the boat was hooked on and hoisted up to the davits the speed of the steamer was reduced to about three

knots the hour. At the time I ordered the boat's crew called away the officers appeared on deck and saw the performance, as well as on other occasions when it was not so quickly done, owing probably to the boat's crew feeling a little nervous and carelessness in lowering the boat ; but as a general rule I think the boat can always be manned lowered and ready for service in one minute or one minute and a half, and certainly not to exceed two minutes ; the boat is a light one and now begins to leak from dropping one, two, and three feet in the water, so that a stronger boat would be more desirable if having to undergo the test of my "gig."

I trust, sir, that I have sufficiently answered the questions proposed in the copy of Mr. A. H. Evans's letter which the department forwarded to me.

Respectfully, I have the honor to be, your obedient servant,

S. F. HAZARD,

*Commander.*

Hon. ISAAC TOUCEY, *Secretary of the Navy,*  
*Washington City.*

The following officers were present and indorse the foregoing report : Van R. Morgan, executive officer ; R. M. McArann, lieutenant ; William Gibson, lieutenant ; Beverley Kennon, lieutenant ; William E. Evans, master ; James K. Harwood, purser ; F. L. Galt, assistant surgeon ; E. G. Furber, midshipman ; H. L. Howison, midshipman ; J. A. Howell, midshipman ; Henry G. Thomas, carpenter ; William Carter, gunner ; C. H. D. Wolf, captain's clerk.

Its practical value is further attested by the annexed papers, the last of which is entitled to much weight from its official character, and the thoroughness of the examination upon which it was based, and its conclusion upon other modes of attaining the end proposed by the invention under consideration.

B.

NEAR WILMINGTON,  
*Delaware, March 7, 1860.*

DEAR SIR : In reply to your request for my opinion, in writing, "of the necessity and value to sea-going vessels of an apparatus which can lower and detach a boat in two or three minutes by one man, at all reasonable times when the vessel is underway," I have to say that any apparatus which will accelerate even by *one* minute the lowering a boat, or increase the safety of the operation in a sea-way, over the present mode, particularly if it can be done by one man, is worthy of immediate consideration and adoption, for human life is involved in the process, and many of us may look back and remember how a minute or two sooner in getting off a boat would have rescued a drowning man who had fallen overboard ; and how often a boat would be despatched, and would live in a sea-way, that is now kept fast, owing to the conviction that she would swamp with all who are lowered in

her, for fear that the tackles would not be detached the instant the boat struck the water.

I am, dear sir, yours, respectfully,

S. F. DUPONT,

*Captain U. S. Navy, late Commander of  
the U. S. Steam Frigate "Minnesota," E. India Station.*

Lieutenant HUNTER DAVIDSON,

*U. S. Navy, Naval Academy, Annapolis, Maryland.*

C.

NAVY YARD, Washington, March 14, 1860.

DEAR SIR: Lieutenant Davidson's boat apparatus was in practical operation on board the United States Steamer Dale whilst under my command; it was then in its infancy, and undergoing improvements under an armorer not particularly skilful; its merits were apparent to me and I recommended that a board of officers should be directed to report upon it; I have seen a boat detached from the ship repeatedly whilst under a speed of four miles; it answered its purpose *perfectly*.

I remain, sir, very respectfully, &c.,

W. M BLAIR,

*Commander United States Navy.*

A. H. EVANS,

*House of Representatives, Washington, D. C.*

D.

NAVAL ACADEMY,

*Annapolis, Md., January 25, 1860.*

SIR: By direction of the Bureau of Construction, Equipment and Repair, of the 5th instant, I respectfully forward to the department the report of a board of officers appointed by me to test boat-detaching apparatus.

I have the honor to be, sir, respectfully, your obedient servant,

G. S. BLAKE,

*Superintendent.*

Hon. ISAAC TOUCEY,

*Secretary of the Navy, Washington City, D. C.*

UNITED STATES NAVAL ACADEMY,

*Annapolis, Md., January 23, 1860.*

SIR: In compliance with your order of the 13th instant, we have this day tested the different inventions of boat-detaching apparatus therein specified, viz: by Messrs. Blunt, Bishop, Brooke, Mealy, Kynaston, Tucker, and Davidson.

We are of opinion that the methods of Captain Kynaston, R. N., and Lieutenant Davidson, United States navy, are very much prefer-

able to any of the others, and that, of these two systems, Lieutenant Davidson's has the advantage, both in simplicity and cheapness.

The others present the objection of uncertainty in detaching both ends of the boat at the same instant, which, in a sea-way, might result in the loss of the boat's crew were the bow detached first.

We are decidedly of the opinion that the apparatus of Lieutenant Davidson is the best of those which we have tested.

We are, sir, very respectfully, your obedient servants,  
THOMAS T. CRAVEN, *Commander*.  
R. H. WYMAN, *Lieutenant*.  
SAMUEL MARCY, *Lieutenant*.  
E. SIMPSON, *Lieutenant*.  
J. G. MYERS, *Carpenter*.

Captain G. S. BLAKE, *U. S. N.*,  
*Superintendent United States Naval Academy*.

Forwarded by G. S. Blake, superintendent.

These exhibits make a strong case in the opinion of the committee; and, believing that the invention supplies a want long felt in the service, and will be the means, if adopted, of saving many valuable lives as well as of increasing the efficiency of our national vessels, by providing them with every reasonable provision for the sudden emergencies of peril to which their crews are subjected, the committee are of opinion that it would be well to grant the prayer of the petitioner, and they therefore report a bill accordingly, the passage of which they recommend.

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*Description of "Davidson's boat apparatus."*

This apparatus consists of four different parts, for four different purposes, viz:

1st. The method by which the boat is secured, when carried at sea, called "griping:"

There was no particular method of "griping" previous to this invention, the boat being secured to suit the officer in command; and when a boat was to be got ready for lowering, in cases of sudden danger, it generally took about five minutes to release her from the "gripes," or securings. The Davidson method (see official report, *at sea*, United States steamer "Pocahontas") takes twenty-eight seconds to have a boat "all ready for lowering."

2d. Method of lowering:

Both ends of the boat are lowered at the same time by one man, one mill, by means of one rope about five fathoms in length. This rope controls the revolutions of a reel, around which the chain-pendants, supporting the weight of the boat, are wound.

This gearing lowers both ends of the boat with certainty into a safe position to be detached. It is the only invention for such a purpose in this country.



The method of lowering boats now in use in the navy and elsewhere requires *two* ropes (each about twenty fathoms in length) and *two* men; hence the difficulty and loss of time in lowering a boat fairly to the water, so as to prevent swamping in cases of emergency.

### 3d. Method of detaching:

By this means both ends of the boat can be detached at the same instant of time by *one hand*, either *before* or *after* touching the water, as desired, it never having failed in about three hundred trials.

The connecting chain between the detaching hooks is wholly out of the way of being fouled by persons or things in the boat; which fact, with others, has decided its superiority over all the American and English plans. This detaching process is uninfluenced by the speed of the vessel or the roughness of the sea.

By the method now in use in our service a boat could not be detached with safety unless the vessel's headway was stopped (the process of stopping consuming some five or ten minutes) and the sea ordinarily smooth. The Davidson method takes *three seconds* to lower and detach a boat, without stopping the speed of the vessel, and in any sea-way.—(See official report.)

### 4th. Method of attaching, or "hooking on."

This is the first improvement on the old style that the inventor has ever heard of. By the old process, or the one now in common use, it is very difficult to hook the tackles from the ship to the rings in a boat when the boat goes alongside a vessel in a heavy sea and both are being pitched and rolled about; and, moreover, these tackles have to be held in their hooked position, at the risk of crushing the hand, until the boat is hoisted out of water.

There are other difficulties, also, only understood by sea-faring people, attending the method of attaching now in common use.

These difficulties are all obviated and overcome by the "Davidson apparatus."—(See official report.)

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REPORT

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The University of Chicago Library  
has received a copy of the  
report of the Committee on  
the History of the University  
of Chicago, which was  
presented to the Board of  
Trustees at its meeting  
on June 1, 1900. The  
report contains a detailed  
account of the history of  
the University from its  
founding in 1837 to the  
present time. It also  
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